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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,606

06/20/2006

Shigeru Sasaki

023174-0169

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FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

TRUONG, DUC

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/06/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,606	<b>Applicant(s)</b> SASAKI ET AL.	
	<b>Examiner</b> Duc Truong	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

The last office action is hereby withdrawn in view of Applicant's arguments. However, a new ground of rejection is cited herein based on a further review the IDS of 04/04/08.

Claims 1-2 and 4-9 with the combination of formula (2a) and (2b) as the elected species are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 00/15691 or WO 02/25764 or IWASAKI et al (5,985,477), they are of record on 1449.

WO 00/15691 discloses ion exchange polymers for a polymer electrolyte membrane include a moiety of formula (I), and/or a moiety of formula (II), and/or a moiety of formula (III) wherein SOME of the units of I, II and/or III are sulfonated (see Abstract, example 26, claims 1-35) in that the sulfonation is carried out in concentrated sulfuric acid (claim 33) due to  $\text{--SO}_3\text{H}$  group is directed bonded to a part or all of the aromatic carbon ring.

WO 02/25764 discloses ion conducting sulfonated polymeric materials made by the direct polymerization of a sulfonated monomer in that the sulfonated polymers can be formed into membranes that may be used in proton exchange membrane fuel cells Or as ion exchange membranes (see Abstract).

Note that the sulfonated copolymers and proton exchange membrane comprising said copolymers are disclosed at pages 3-5 in that the  $\text{--SO}_3\text{H}$  group is directly bonded to a part of the aromatic carbon ring (figure 3, examples 1- 2, 4, Schemes 1, 2, claims).

IWASAKI discloses polymer electrolyte for fuel cells comprising a sulfonated polymer having an ion exchange group equivalent weight of 500 to 2500 g/mol,

Art Unit: 1796

obtained by sulfonating a structural units of formula II or a copolymer having 95 to 40 mol% of a structural unit of formula I and 5-60 mol% of structural unit of formula II (See Abstract; col. 2, line 1 et seq; line 23 et seq. in that the -SO<sub>3</sub>H group is introduced only into an aromatic ring which is not adjacent to a sulfone group).

The disclosures of the references differ from the instant claims in that they neither disclose that the claimed product is a direct methanol type fuel cell nor the equation in claim 1.

However, the compositions disclosed by the references are prepared from reactants and under process conditions that are inclusive of the claimed reactants and conditions. In view of this similarity, the claimed product and the equation must be considered inherent in the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Duc Truong/  
Primary Examiner, Art Unit 1796